

# **Final Grant Report**

## **Evaluation Component**

**Cooperative Employer-Provider Medical Management And  
Early Return To Work In Workers Compensation**

**A Workers' Compensation Health Initiative  
Project Funded with Support  
Of the Robert Wood Johnson Foundation**

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**Grantee: Mid-America Coalition on Health Care  
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## Evaluation Component

The University of Kansas Medical Center was responsible for the evaluation component of this grant. Since the grant is a demonstration project and not a research project, the evaluation component is defined by specific goals. The goals were established in the Coalition's grant proposal to the Robert Wood Johnson Foundation and based on historical information from the Mid-America Coalition on Health Care. The Coalition obtained their data from the foundation-funded project, as well as from employer focus groups. Data collection was accomplished by the Coalition and archived by Midwest Research Institute of Kansas City, Missouri. Statistical analysis was conducted by Midwest Research Institute.

### **Goal #1: Improved communication between the employer, medical care provider, and employee regarding work and injury related health.**

As part of an earlier workers' compensation initiative, the Mid-American Coalition identified poor communication between the health-care provider and the employer as a major factor contributing to increased cost and fractionated care. The Coalition brought together employers, health-care providers, and workers' compensation case managers to address the issue of communication. The result was a uniform workability report (UWR) form that contained key data needed by all parties. The primary focus of this project goal relates to the acceptance of the uniform workability report. (A copy of the uniform workability report is attached as Addendum 1.)

Staff from the Coalition provided an in-service to each of the participating employers on the form prior to its initiation. Overall, compliance in completion of the form was 75 percent, with a range from 25 to 100 percent. Of the 12 major employers involved in the study, 7 had greater than 80 percent compliance. In terms of timeliness of reporting, 66 percent of the report forms were returned in under 24 hours; 6.5 percent from 1 to 2 days; 2.1 percent from 2 to 3 days; 19.6 percent greater than 4 days; and 5.4 percent were not specified in terms of time of return.

A regression analysis was performed to determine the relationship to the time of return to work to time of return of the uniform workability report (UWR). Three groups were defined: (1) those on modified duty; (2) those on full duty; and (3) those in the entire group. None of the correlations were statistically significantly different than zero and, therefore, there was no relationship between the time of return of the UWR and the time of return to work.

Variability was noted in terms of average time of return to work after the initial visit. Overall, the average time from initial visit to return to work was 3.1 days (#956). In the subset of matched cases, the average time was 1.9 days with a range of 0-3.3 days. Matched cases refer to those cases where all forms (UWR/employee satisfaction/employer satisfaction and case management forms) were completed (#145). In comparing hospital employees versus non-hospital employees, there was a distinct difference, with hospital employees return-to-work average being 2.6 days and non-hospital employees being 0.1 day.

One of the positive side benefits of the uniform workability report was benchmarking and the potential for employers to set performance goals based on the benchmarks. The reports, based on the data generated, were well received especially by the hospital employers. (See attached Addendum 2.) The project was extended based on financing from the hospital sector.

### **Goal #2: To identify modified duty arrangements and the role of these arrangements in employer/employee satisfaction. The analyses of employer/employee satisfaction are severely limited due to low response rates. Any evaluations must be interpreted with caution.**

The source of this information came from the supervisor's report on employee health status and the employees self-assessment of health status (MOS-36) following workers-, compensation injury. (See attached Addendum 3.)

From an employer perspective, 54 percent of the time, modified duty was listed as an option by the employer for the injured worker, 10 percent of the time it was not an option, and 36 percent of the time it was not defined.

On the initial visit, the physician was requested to provide work status-either full duty, modified, or off duty. The demographics show that 31 percent of the time, the employee was returned to full duty; 47 percent of the time, the employee was given modified duty; 10 percent of the time, the individual was restricted from work; and approximately 12 percent of the time, the work status was not prescribed.

Given the low response rate to the employee and supervisory questionnaires, no correlation could be established in relation to modified duty and measures of satisfaction of the employee or the supervisor.

To assess employee health status, the MOS-36 was provided to each employee approximately one month after the injury. An initial report of injury was similarly provided to the supervisor. Analysis was done for their pain score, vitality score, and mental health score. The scores were evaluated statistically by a one-way analysis, a variance (ANOVA).

Analysis of the pain index revealed that there was a correlation coefficient of .476 between the employee's perception of pain status and that of the supervisor. Therefore, when employees reported they were having pain, the supervisors agreed they were having pain. This would be the expected result.

Analysis of vitality score comparing employee's versus supervisor's score revealed a correlation coefficient of .367.

With respect to the mental health score comparing supervisor's assessment of the employee's emotional status versus employee's mental health index, taken from the MOS-36, the analysis of the variants led to a p value of .061, which was not statistically significant.

In comparing the supervisor's assessment of employee productivity and employee satisfaction scores, taken from the MOS-36 question 4-e, Chi square analysis was done and revealed that there is no statistically significant relationship between the two variables.

### **Goal #3: To measure the effectiveness of medical protocols.**

In 1995, the Coalition, in concert with the Metropolitan Medical Society of Greater Kansas City and the Great Plains Occupational and Environmental Medicine Chapter of the American College of Occupational and Environmental Medicine, developed practice parameters for four categories of workers' compensation injuries; namely, shoulder, carpal tunnel, tendonitis, and back injury.

The Coalition provided the guidelines to all physicians involved with the employers in this project.

Historically, the employers believed that back injuries and carpal tunnel syndrome were the two major workers' compensation maladies. Therefore, these two ailments were chosen to evaluate. However, as the project progressed, sufficient carpal tunnel cases did not materialize and the frequency of carpal tunnel syndrome was too low for evaluation. Therefore, analysis of medical guidelines was based upon low-back pain alone.

In terms of initial evaluation of back pain, the physician ordered a standard X-ray in 84 percent of the cases. However, only 11 percent of the individuals received an MRI; and 3.4 percent received an EMG. Based on our definition of conservative therapy, the vast majority of initial evaluations were considered conservative.

Based upon the physician's initial evaluation, only 5.2 percent of the employees presenting with low-back pain required a specialty physician referral. One referral was to a neurosurgeon; one to a physiatrist; and

the remainder to orthopedic surgeons. Based upon historical data, these percentages also indicate a conservative approach on initial management.

In terms of treatment plans for low-back pain, 0.4 percent received (or two cases) received surgery; 48.8 percent received physical therapy; 0.7 percent received occupational therapy; 28.9 percent received medications; 0.2 received equipment.

Work status prescribed based upon the initial evaluation for low-back pain revealed that 17.1 percent were returned to full duty; 67.9 percent were returned to modified duty; 14.1 percent were recommended for off duty.

Due to the large degree of conservative therapy and low employee questionnaire response, we were unable to complete an evaluation of conservative versus aggressive medical management and the employee's health status.

### ***General Observations***

Historically, Coalition members believed that physician inattentiveness to reporting and excessive diagnostic tests were the cause of their increased medical and indemnity cost of workers' compensation. Based upon this study population and the variables analyzed; namely, a uniform workability report and an assessment of initial treatment of back pain, it is clear that the physicians are responsive and not the primary source of concern.

Given the low response rate for completion of employee and supervisor forms and the uncertainty of the availability of modified duty, communication between the employer, employee, supervisor and insurance vendor is an area that needs to be improved.

### ***Future Research***

Since the uniform workability report form was well accepted by the physicians, a formal research study should be conducted to address whether or not this standardized method of communication will lead to lower costs and better care outcomes.

Since the medical guidelines were well accepted by the physicians, a research project should be developed to compare employers whose physicians are not using guidelines versus those that are, and ultimately to look at not only cost of care but also employee satisfaction.

(Uniform Workability Form here, would not scan properly – See Tool Box)

**KEY BENCHMARKS FROM WORKERS' COMPENSATION DATA  
MARCH 1997 THROUGH AUGUST 1998**

TOTAL COVERED LIVES	24,590
ALL INJURIES REPORTED	956
TOTAL MATCHED (COMPLETE) CASES	145

<b>1. <u>TYPE OF INJURY</u></b>	<b><u>of Cases</u></b>	<b><u>% of Total</u></b>
Low Back Pain	268	28.0
Knee Pain	70	7.3
Shoulder Sprain	78	8.2
Carpal Tunnel	20	2.1
Other Miscellaneous	520	54.4

**2. TOTAL PROVIDER VISITS REPORTED 2,113**

Visits Per Case	2.2
Low Back Pain	2.5
Carpal Tunnel	3.3

**3. MODIFIED WORK DUTY AS OPTION FOR EMPLOYEE (for all cases)**

Yes	54%
No	10%
Unknown	36%

**4. WORK STATUS OF EMPLOYEE AFTER INITIAL VISIT (for all cases)**

Full Duty	31%
Modified Duty	47%
Off Duty	10%
Unknown	12%

**5. AVERAGE TIME BETWEEN EVENTS (for all cases)**

	<b><u>DAYS</u></b>
DATE OF INJURY & INITIAL VISIT	3.5
DATE OF INITIAL VISIT & RETURN TO MODIFIED DUTY	3.1
DATE OF INJURY & RETURN TO MODIFIED DUTY	7.0

**6. TIMES OF WORKABILITY REPORT BACK TO EMPLOYER FROM PROVIDER (for all cases)**

Under 24 Hours	66%
1-2 Days	6.5%
2-3 Days	2.1%
4+ Days	19.6%
Not Specified	5.4%

**7. TREATMENT PLANS ORDERED BY PHYSICIANS (ALL VISITS)**

<b><u>MEDICAL GUIDELINES:</u></b>	<b><u>All Visits</u></b>	<b><u>Low Back</u></b>	<b><u>Carpal Tunnel</u></b>
NONE SPECIFIED	25%	15%	25%
OVER THE COUNTER			
MEDICATIONS	37%	37%	25%
PHYSICAL THERAPY	29%	45%	15%
PRESCRIPTIONS	20%	24%	15%
EQUIPMENT	4%	0.4%	30%
SURGERY	2.2%	0.4%	25%
WALKING AIDS	1.5%	---	--
OCCUPATIONAL THERAPY	1.0%	1.1%	15%

**8. DIAGNOSTIC TESTS ORDERED BY PHYSICIANS (ALL VISITS)**

	<b><u>All Visits</u></b>	<b><u>Low Back</u></b>	<b><u>Carpal Tunnel</u></b>
NONE SPECIFIED	58%	64%	40%
X-RAY	35%	34%	15%
MRI	6%	6%	5%
OTHER	3%	1%	5%
EMG	2.2%	1%	50%
CATSCAN	0.4%	---	--

**9. FREQUENCY OF REFERRALS ORDERED BY TREATING PHYSICIAN**

	<b><u>All Visits</u></b>	<b><u>Low Back</u></b>	<b><u>Carpal Tunnel</u></b>
NONE REQUIRED	88%	91%	70%
ORTHOPEDICS	8%	5%	15%
OTHER	4%	5%	15%

Addendum #-3

## Supervisor's Report on Employee Health Status (Instructions on Back)

Company Name \_\_\_\_\_ Date Report Completed \_\_\_\_\_  
 Emp ID/Case #/SSN \_\_\_\_\_ Date of Initial Injury \_\_\_\_\_  
 Supervisor's Name \_\_\_\_\_  
 Date Employee First Returned to Work Following Injury \_\_\_\_\_

Employee Has Returned to Work:      Full Duty       Modified Duty       Not Working

1. Has the employee expressed to you difficulty performing his or her work or other daily activities (for example, it took extra effort) as a result of his/her physical health?

YES       NO

**Limited a lot      Limited a little      Not limited**

Is the employee's productivity job performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the employee's relationships with co-workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the employee's relationship with supervisors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Some of time      Most of time      None of time**

2. Does the employee complain of pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the employee complain of fatigue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the employee complain of emotional problems (stress, anxiety, depression)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Supervisor's perspectives of reduced work schedule

Is the employee's productivity or job relationships limited at all?       YES       NO  
 If YES:

**YES      YES      NO**  
**A lot      A little      Not at all**

Does the employee's limited productivity or job relationships create stress for me (the supervisor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the employee's limited productivity or job relationships create stress for other co-workers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This employee's limited work status will hamper the productivity of this unit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Employee's Self-Assessment of Health Status Following Worker's Compensation Injury

Emp ID/Case #/SSN \_\_\_\_\_

Date of Injury \_\_\_\_\_

**Instructions:** This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

Answer every question by circling the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

- 01 **Excellent**
- 02 **Very good**
- 03 **Good**
- 04 **Fair**
- 05 **Poor**

2. Compared to one year ago, how would you rate your health in general now?

- 01 **Much better now than one year ago**
- 02 **Somewhat better now than one year ago**
- 03 **About the same as one year ago**
- 04 **Somewhat worse now than one year ago**
- 05 **Much worse now than one year ago**

3. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much? **(Circle one number on each line)**

Activites	Yes, limited a lot	Yes, limited a little	No, not limited at all
a. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
c. Lifting or carrying groceries	1	2	3
d. Climbing several flights of stairs	1	2	3
e. Climbing one flight of stairs	1	2	3
f. Bending, kneeling, or stooping	1	2	3
g. Walking more than a mile	1	2	3
h. Walking several blocks	1	2	3
i. Walking one block	1	2	3
j. Bathing or dressing yourself	1	2	3

4. During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? (**Circle one number on each line**)

	Yes	No
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Were limited in the kind of work or other activities	1	2
d. Had difficulty performing the work or other activities (for example, it took extra effort)	1	2
e. If you were placed on modified duty, were you satisfied with the arrangements?	1	2

5. During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)? (**Circle one number on each line**)

	Yes	No
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Didn't do work or other activities as carefully as usual	1	2

6. During the **past 4 weeks**, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or g-oups?

- 01 **Not at all**
- 02 **Slightly**
- 03 **Moderately**
- 04 **Quite a bit**
- 05 **Extremely**

7. How much bodily pain have you had during the **past 4 weeks**?

- 01 **None**
- 02 **Very mild**
- 03 **Mild**
- 04 **Moderate**
- 05 **Severe**
- 06 **Very severe**

8. During the **past 4 weeks**, how much did pain interfere with your normal work (including both work outside the home and housework)?

- 01 **Not at all**
- 02 **A little bit**
- 03 **Moderately**
- 04 **Quite a bit**
- 05 **Extremely**

9. These questions are about how you feel and how things have been with you during the **past 4 weeks**. For each question, please give the one answer that comes closest to the way you have been feeling. How much time during the **past 4 weeks**. (Circle one number on each line)

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
a. Did you feel full of pep?	1	2	3	4	5	6
b. Have you been a very nervous person?	1	2	3	4	5	6
c. Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d. Have you felt calm and peaceful?	1	2	3	4	5	6
e. Did you have a lot of energy?	1	2	3	4	5	6
f. Have you felt downhearted and blue?	1	2	3	4	5	6
g. Did you feel worn out?	1	2	3	4	5	6
h. Have you been a happy person?	1	2	3	4	5	6
i. Did you feel tired?	1	2	3	4	5	6

10. During the **past 4 weeks**, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

- 01 All of the time  
 02 Most of the time  
 03 Some of the time  
 04 A little of the time  
 05 None of the time

11. How TRUE or FALSE is each of the following sentences for you? (Circle one number on each line)

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
a. I seem to get sick a little easier than other people	1	2	3	4	5
b. I am as healthy as anybody I know	1	2	3	4	5
c. I expect my health to get worse	1	2	3	4	5
d. My health is excellent	1	2	3	4	5